FIGURE 1. RENILLA RENIFORMIS POLYNUCLEOTIDE SEQUENCE (SEQ ID NO.1)

R. ren: 1 **ATGGTGAGTAAACAAATATTGAAGAA**CACTGGATTGCAGGAGATCATGTCGTTTAAAGTGAATC 64

R. ren: 65 TGGAAGGTGTAGTAAACAATCATGTGTTCACAATGGAAGGTTGTGGAAAAGGAAATATTT 124

R. ren: 125 TATTCGGAAACCAACTGGTTCAGATTCGTGTCACAAAAGGGGCTCCGCTTCCATTTGCAT 184

R. ren: 185 TTGATATTCTCTCACCAGCTTTCCAATACGGCAACCGTACATTCACGAAATACCCGGAGG 244

R. ren: 245 ATATATCAGACTTTTTTATACAATCATTTCCAGCGGGATTTGTATACGAAAGAACGTTGC 304

R. ren: 305 GTTACGAAGATGGTGGACTGGTTGAAATCCGTTCAGATATAAATTTAATCGAGGAGATGT 364

R. ren: 365 TTGTCTACAGAGTGGAATATAAAGGTAGTAACTTCCCGAATGATGGTCCAGTGATGAAGA 424

R. ren: 425 AGACAATCACAGGATTACAACCTTCGTTCGAAGTTGTGTATATGAACGATGGCGTCTTGG 484

R. ren: 485 TTGGCCAAGTCATTCTTGTTTATAGATTAAACTCTGGCAAATTTTATTCGTGTCACATGA 544

R. ren: 545 GAACACTGATGAAATCAAAGGGTGTAGTGAAGGATTTTCCCGAATACCATTTCATTCAAC 604

R. ren: 605 ATCGTTTAGAGAAGACGTATGTGGAAGACGGAGGTTTTGTTGAGCAACACGAGACGGCCA 664

R. ren: 665 TTGCTCAACTGACATCGCTGGGGAAACCACTTG**GATCCTTACACGAATGGGTTTAA** 720

FIGURE 2. RENILLA RENIFORMIS AMINO ACID SEQUENCE
(SEQ ID NO:2)

R. reni: 1 MSKQILKNTGLQEIMSFKVNLEGVVNNHVFTMEGCGKGNILFGNQLVQIRVTKGAPLPFA 60

R. reni: 61 FDILSPAFQYGNRTFTKYPEDISDFFIQSFPAGFVYERTLRYEDGGLVEIRSDINLIEQM 120

R. reni: 121 FVYRVEYKGSNFPNDGPVMKKTITGLQPSFEVVYMNDGVLVGQVILVYRLNSGKFYSCHM 181

R. reni: 182 RTLMKSKGVVKDFPEYHFIQHRLEKTYVEDGGFVEQHETAIAQLTSLGKPLGSLHEWV 238

FIGURE 3. POLYNUCLEOTIDE AND AMINO ACID SEQUENCES OF A HUMANIZED *R. RENIFORMIS* GFP. (SEQ ID NOs: 3 and 4, respectively)

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1   ATGGTGAGCAAGCAGATCCTGAAGAACACCGGCCTGCAGGAGATCATGAGCTTCAAGGTG
     M  V  S  K  Q  I  L  K  N  T  G  L  Q  E  I  M  S  F  K  V

61  AACCTGGAGGGCGTGGTGAACAACCACGTGTTCACCATGGAGGGCTGCGGCAAGGGCAAC
     N  L  E  G  V  V  N  N  H  V  F  T  M  E  G  C  G  K  G  N

121 ATCCTGTTCGGCAACCAGCTGGTGCAGATCCGCGTGACCAAGGGCGCCCCCCTGCCCTTC
     I  L  F  G  N  Q  L  V  Q  I  R  V  T  K  G  A  P  L  P  F

181 GCCTTCGACATCCTGAGCCCCGCCTTCCAGTACGGCAACCGCACCTTCACCAAGTACCCC
     A  F  D  I  L  S  P  A  F  Q  Y  G  N  R  T  F  T  K  Y  P

241 GAGGACATCAGCGACTTCTTCATCCAGAGCTTCCCCGCCGGCTTCGTGTACGAGCGCACC
     E  D  I  S  D  F  F  I  Q  S  F  P  A  G  F  V  Y  E  R  T

301 CTGCGCTACGAGGACGGCGGCCTGGTGGAGATCCGCAGCGACATCAACCTGATCGAGGAG
     L  R  Y  E  D  G  G  L  V  E  I  R  S  D  I  N  L  I  E  E

361 ATGTTCGTGTACCGCGTGGAGTACAAGGGCCGCAACTTCCCCAACGACGGCCCCGTGATG
     M  F  V  Y  R  V  E  Y  K  G  S  N  F  P  N  D  G  P  V  M

421 AAGAAGACCATCACCGGCCTGCAGCCCAGCTTCGAGGTGGTGTACATGAACGACGGCGTG
     K  K  T  I  T  G  L  Q  P  S  F  E  V  V  Y  M  N  D  G  V

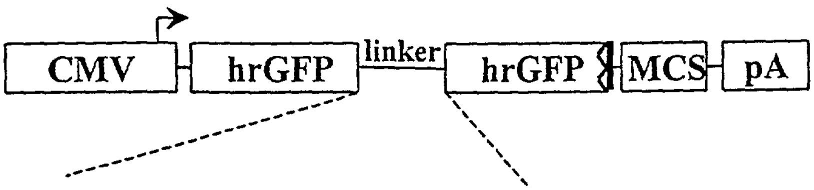
481 CTGGTGGGCCAGGTGATCCTGGTGTACCGCCTGAACAGCGGCAAGTTCTACAGCTGCCAC
     L  V  G  Q  V  I  L  V  Y  R  L  N  S  G  K  F  Y  S  C  H

544 ATGCGCACCCTGATGAAGAGCAAGGGCGTGGTGAAGGACTTCCCCGAGTACCACTTCATC
     M  R  T  L  M  K  S  K  G  V  V  K  D  F  P  E  Y  H  F  I

604 CAGCACCGCCTGGAGAAGACCTACGTGGAGGACGGCGGCTTCGTGGAGCAGCACGAGACC
     Q  H  R  L  E  K  T  Y  V  E  D  G  G  F  V  E  Q  H  E  T

664 GCCATCGCCCAGCTGACCAGCCTGGGCAAGCCCCTGGGCAGCCTGCACGAGTGGGTGTAA
     A  I  A  Q  L  T  S  L  G  K  P  L  G  S  L  H  E  W  V  -
```

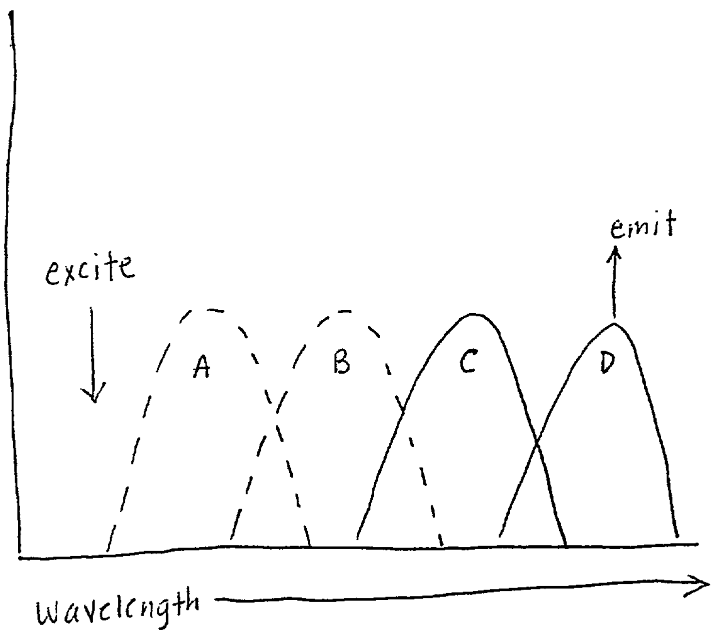
Figure 4



A. Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser

B. Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser- Gly-Gly-Gly-Gly-Ser

C. Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser-Gly-Gly-Gly-Gly-Ser



A = donor excitation peak

B = donor emission

C = acceptor excitation

D = acceptor emission

FIGURE 5